

A COMPARISON OF THE RELATIVE MERITS OF ELECTROPLATING AND  
MICROPRECIPITATION FOR THE ALPHA SPECTROSCOPIC  
DETERMINATION OF RA-226 AND THE ACTINIDES

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ABSTRACT:

Until recently, electroplating of thorium, uranium, and the transuranic elements has been the standard mounting technique for alpha spectroscopic analysis. Based on the work of researchers such as C.W. Sill, microprecipitation is now finding acceptance as an alternative to electroplating in some situations. Thermo NUtech has developed both techniques for the analysis of client samples. While the electroplating of samples is primarily used at the Albuquerque, NM and Richmond, CA laboratories, the Oak Ridge, TN, facility makes use of microprecipitation. Both techniques have been developed to a high degree of proficiency within the company. A comparison of the relative merits and applicability of both methods has been carried out based on historical data from laboratory control standards, national intercomparison samples, and client samples. In order to provide more representative data, both liquid and solid matrices were included in the study. Conclusions are presented as to the utility for their use.